

DVP-EH2

INSTRUCTION SHEET

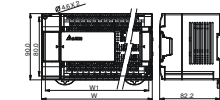
安裝說明 安装说明

- ▲ High-Speed, Multi-Functional Programmable Logic Controller
- ▲ 高速、多功能可程式控制器
- ▲ 高速、多功能可編程控制器



Part	Description
COM2 (RS-485)	For both master & slave modes
RUN/STOP switch	PLC RUN/STOP control
VR0	Enable M1178/Corresponding value of D1178
VR1	Enable M1179/Corresponding value of D1179
COM1 (RS-232)	For slave mode
Battery	Should be changed within 1 min.

Dimension



Model	W (mm)	W1 (mm)
DVP16EH02R/2T	113	103
DVP20EH02R/2T	113	103
DVP32EH02R/2T	143.5	133.5
DVP40EH02R/2T	158.8	153.8
DVP48EH02R/2T	174	164
DVP64EH02R/2T	212	202
DVP96EH02R/2T	276	266

Specifications

Item	Model	16EH00□□	20EH00□□	32EH00□□	40EH00□□	48EH00□□	64EH00□□	96EH00□□
Power supply voltage		100 ~ 240V AC (-15% ~ 10%); 50/60Hz ± 5%						
Fuse capacity	2A/250V AC							
Power consumption	50VA	50VA	60VA	60VA	80VA	80VA	80VA	80VA
DC24V current supply	500mA	500mA	500mA	500mA	500mA	500mA	500mA	500mA
Power protection	DC24V output short-circuited							
Withstand voltage	1,500V AC (Primary-Secondary); 1,500V AC (Primary-PE); 500V AC (Secondary-PE)							
Insulation resistance	> 5 M Ω (all I/O point-to-ground; 500V DC)							
Noise immunity	ESD: 8KV Air Discharge; EFT: Power Line: 2KV, Digital I/O: 1KV, Analog & Communication I/O: 250V, Damped-Oscillatory Wave; Power Line: 1KV, Digital I/O: 1KV, RS: 26MHz ~ 1GHz, 10V/m. The diameter of grounding wire shall not be less than that of L, N terminal of the power. (When many PLCs are in use at the same time, please make sure every PLC is properly grounded.)							
Earth	Operation: 0°C ~ 55°C (temperature); 50 ~ 95% (humidity); pollution degree 2 Storage: -40°C ~ 70°C (temperature); 5 ~ 95% (humidity) International standards: IEC61131-2, IEC 68-2-6 (TEST F)/IEC61131-2 & IEC 68-2-27 (TEST Ea)							
Operation/storage	Operation: 0°C ~ 55°C (temperature); 50 ~ 95% (humidity); pollution degree 2 Storage: -40°C ~ 70°C (temperature); 5 ~ 95% (humidity)							
Vibration/shock immunity	International standards: IEC61131-2, IEC 68-2-6 (TEST F)/IEC61131-2 & IEC 68-2-27 (TEST Ea)							
Weight (g)	500/480	520/500	652/612	710/675	748/688	836/756	948/848	948/848

Input Point Specification

Items	24VDC single common port input		Note
	Low speed	High speed (200kHz)	
Input wiring type	Change wiring from S/S to SINK or SOURCE		
Input indicator	LED display; light on = ON, light off = OFF		
Input voltage	24VDC		
Active Level	Off = On On = Off	X0 ~ X7, X12, X13, X16, X17, X20 ~ X47: > 18.5V DC X10, X11, X14, X15: > 16.5V DC	
Response time / noise immunity	10ms	0.5 μ s	

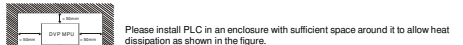
Output Point Specification

Items	Single common port transistor output		Single common port relay output
	Low speed	High speed*	
Max. frequency	10kHz	200kHz	Load ON/OFF control
Output indicator	LED display; light on = ON, light off = OFF		
Min. load	2mA/DC power supply		
Working voltage	5 ~ 30VDC		
Insulation	Photocoupler isolation		Magnetic isolation
Current specification	0.3A/1 point @ 40°C	<1kHz, 0.3A/1 point @ 40°C ≥1kHz, 30mA/1 point @ 40°C	2A/1 point (5A-COM) 75VA (conductive), 90W (resistive)
Max. output delay time	Off = On: 20 μ s On = Off: 30 μ s	0.2 μ s	10ms
Over-current protection	N/A		
Mechanical life	N/A		2~10 ⁶ times (without load)
Electrical life	N/A		5~10 ⁶ times (SA 120V AC) 3~10 ⁶ times (SA 250V AC)

*High-speed output points (Y0, Y2) are only in DVP20EH2 and DVP32EH2; high-speed output points (Y0, Y1, Y2, Y3, Y4, Y6) are only in DVP40EH2.

Installation & Wiring

3.1 PLC Mounting Arrangements and Wiring Notes
How to install DIN rail:
DVP-PLC can be secured to a cabinet by using the DIN rail of 35mm in height and 7.5mm in depth. When mounting PLC to DIN rail, be sure to use the end bracket to stop any side-to-side movement of PLC and reduce the chance of wires being loosened. A small retaining clip is at the bottom of the PLC. To secure PLC to DIN rail, please the clip onto the rail and gently push it up. To remove it, pull the retaining clip down and gently remove PLC from DIN rail, as shown in the figure.



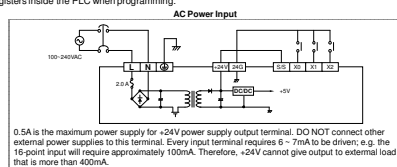
Wiring:

1. Use O-type or Y-type terminal. See the figure in the left hand side for its specification. PLC terminal screws should be tightened to 5 ~ 8 kg-cm (4.3 ~ 6.9 in-lb) and please use only 60/75°C copper conductor.
2. DO NOT wire empty terminal. DO NOT place the input signal cable and output power cable in the same wiring circuit.
3. DO NOT drop any metallic conductor into the PLC while screwing and wiring. Tear off the sticker on the heat dissipation hole for preventing alien substances from dropping in, to ensure normal heat dissipation of the PLC.

3.2 Wiring Notes

Power Input Wiring
The power input of DVP-EH series is AC. When operating the PLC, please make sure that:

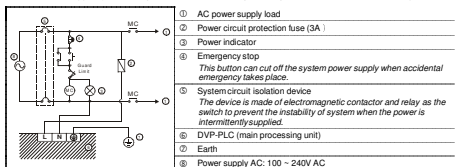
1. The input voltage should be current and its range should be 100 ~ 240V AC. The power should be connected to L and N terminals. Wiring AC110V or AC220V to +24V terminal or input terminal will result in serious damage on the PLC.
2. The AC power input for PLC-PLC and I/O extension modules should be ON or OFF at the same time.
3. Use wires of 1.6mm (or longer) for the grounding of PLC MPU. The power shutdown of less than 10 ms will not affect the operation of the PLC. However, power shutdown time that is too long or the drop of power voltage will stop the operation of the PLC and all outputs will go OFF. When the power supply turns normal again, the PLC will automatically return to its operation. Please be aware of the latched auxiliary relays and registers inside the PLC when programming.



0.5A is the maximum power supply for +24V power supply output terminal. DO NOT connect other external power supplies to this terminal. Every input terminal requires 5 ~ 7mA to be driven, e.g. the 16-point input will require approximately 100mA. Therefore, <24V cannot give output to external load that is more than 400mA.

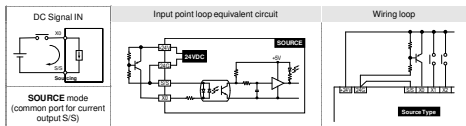
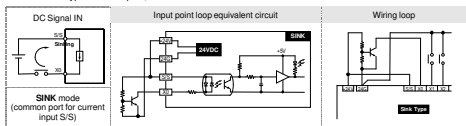
Safety Wiring

Since a PLC controls many devices, actions of any device may affect actions of other devices, and the breakdown of any one device may cause the breakdown of the whole auto-control system and danger. Therefore, we suggest you wire a protection circuit at the power input terminal, as shown in the figure below.

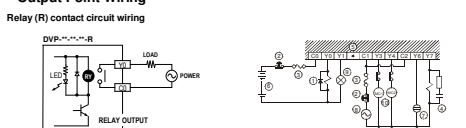


Input Point Wiring

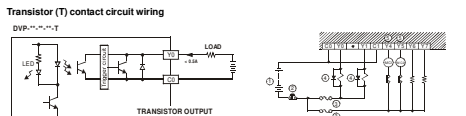
There are two types of DC inputs, SINK and SOURCE.



Output Point Wiring



- ① Flywheel diode: To extend the life span of contact
- ② Emergency stop: Uses external switch
- ③ Fuse: Uses 5 ~ 10A fuse at the common port of output contacts to protect the output circuit.
- ④ Varistor: To reduce the interference on AC load
- ⑤ Empty terminal: not in use
- ⑥ DC power supply
- ⑦ Neon indicator
- ⑧ AC power supply
- ⑨ Incandescent light (resistive load)
- ⑩ Manually exclusive output: Uses external circuit and forms an interlock, together with the PLC internal program, to ensure safety protection in case of any unexpected errors.



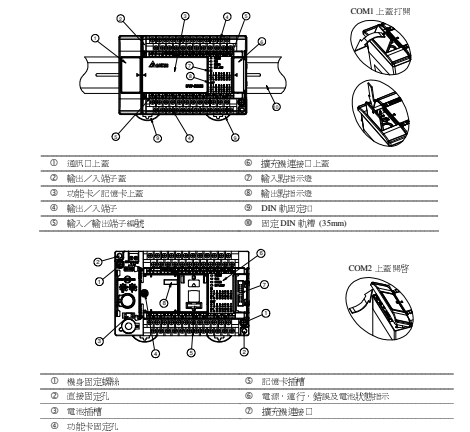
- ① DC power supply
- ② Emergency stop
- ③ Circuit protection fuse
- ④ Flywheel diode + inductive load
- ⑤ Manually exclusive output: Uses external circuit and forms an interlock, together with the PLC internal program, to ensure safety protection in case of any unexpected errors.

注意事項

- ✓ 本使用說明書提供電氣規格、功能規格、安裝配線部分說明，其它詳細之程式設計表格請向SV系列組查，詳細說明請見 DVP-PLC 應用技術手冊【圖式編】；選購之選件查詳細說明請見該產品隨贈手冊或 DVP-PLC 應用技術手冊【特殊編編】。
- ✓ 本機為開放型 (OPENTYPE) 機殼，因此使用者使用本機時，必須將其安裝於無塵、防潮及免受電擊/靜電危害之外部配線櫃內，務必須具備保護措施 (如：特製工具及鑰匙才可打開) 防止非預見人員操作或意外衝擊本機，造成危險及損壞。
- ✓ 交流輸入電源不可連接於輸入/輸出端，否則可能造成嚴重損壞，請在電上電前再次確認電源配線，請勿在電上電時操作任何端子，本體上之接地點，務必正確的接地，可提高產品抗擾動能力。

產品簡介

產品外觀及各部介紹



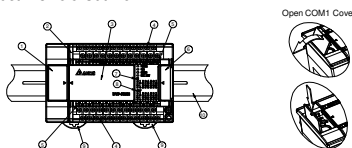
- ① 通訊口上蓋
- ② 輸入/輸出端子
- ③ 功能卡/記憶卡上蓋
- ④ 輸入/輸出端子
- ⑤ 輸入/輸出端子
- ⑥ 輸入/輸出端子
- ⑦ 擴展卡插槽
- ⑧ 電源/運行指示燈
- ⑨ 電池
- ⑩ 功能卡插槽
- ⑪ 擴展卡插槽
- ⑫ 擴展卡插槽
- ⑬ 擴展卡插槽
- ⑭ 擴展卡插槽
- ⑮ 擴展卡插槽
- ⑯ 擴展卡插槽
- ⑰ 擴展卡插槽
- ⑱ 擴展卡插槽
- ⑲ 擴展卡插槽
- ⑳ 擴展卡插槽

Warning

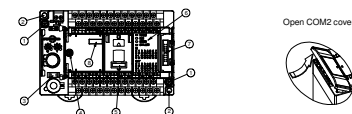
- ✓ This instruction sheet only provides descriptions for electrical specifications, general specifications, installation & wiring. Other detail information about programming and instructions is compatible with SV series; please see PLC Application Manual. For more information about the optional peripherals, please see individual product instruction sheet or "DVP-PLC Application Manual: Special module".
- ✓ This is an OPEN TYPE PLC. The PLC should be kept in an enclosure away from airborne dust, humidity, electric shock risk and vibration. Also, it is equipped with protective methods such as some special locks or keys to open the enclosure, in order to prevent hazard to users or damage the PLC.
- ✓ Do NOT connect the AC main circuit power supply to any of the input/output terminals, or it may damage the PLC. Check all the wiring prior to power up. To prevent any electromagnetic noise, make sure the PLC is properly grounded. DO NOT touch terminals when power on.

Introduction

Product Profile & Outline



- ① Communication port cover
- ② Extension module connection port cover
- ③ I/O terminal cover
- ④ Input indicator
- ⑤ Function card/memory card cover
- ⑥ DIN rail clip
- ⑦ I/O terminals
- ⑧ DIN rail (35mm)
- ⑨ I/O terminal No.
- ⑩ I/O terminal No.



- ① Mounting screw
- ② Memory card port
- ③ Direct mounting hole
- ④ POWER/RUN/BAT.LOW/ERROR Indicator
- ⑤ Battery socket
- ⑥ Extension module connection port
- ⑦ Function card mounting hole

電氣規格

項目	規格	24VDC 單端共陽輸入							備註
		16E100□□	20E100□□	32E100□□	40E100□□	48E100□□	64E100□□	96E100□□	
電源電壓		100 ~ 240V AC (-15% ~ 10%); 50/60Hz ± 5%							
電線保險絲容差	2A/250V AC								
消耗電力	50VA	50VA	60VA	60VA	80VA	80VA	80VA	80VA	
DC24V 供應電流	500mA	500mA	500mA	500mA	500mA	500mA	500mA	500mA	
消防保護	DC24V 輸出短路保護								
突波電壓耐受量	1,500V AC (Primary-Secondary); 1,500V AC (Primary-PE); 500V AC (Secondary-PE)								
線路阻抗	5 M Ω 以上 (所有輸入端對地之間; 500VDC)								
雜訊免疫力	ESD: 8KV Air Discharge; EFT: Power Line: 2KV, Digital I/O: 1KV, Analog & Communication I/O: 250V, Damped-Oscillatory Wave; Power Line: 1KV, Digital I/O: 1KV, RS: 26MHz ~ 1GHz, 10V/m								
接地	接地電阻之總值不得小於 4 歐姆 (N 之總值 (多點 PLC 同時使用時, 請務必單獨接地))								
操作環境	操作: 0°C ~ 55°C (溫度), 50 ~ 95% (濕度), 污染等級 2 儲存: -40°C ~ 70°C (溫度), 5 ~ 95% (濕度)								
耐衝擊/耐震	國際標準: IEC61131-2, IEC 68-2-6 (TEST F)/IEC61131-2 & IEC 68-2-27 (TEST Ea)								
重量 (約) (g)	500/480	520/500	652/612	710/675	748/688	836/756	948/848	948/848	

輸入點規格

項目	規格	24VDC 單端共陽輸入		備註
		低壓	高壓 200kHz	
輸入導線規格		由端子 S/S 接線規格為 SINK 或 SOURCE		
輸入操作指示	LED 顯示: 燈亮表示 ON, 不亮表示 OFF			
輸入信號電壓	24V DC			
動作條件	Off = On On = Off	X0 ~ X7, X12, X13, X16, X17, X20 ~ X47: > 18.5V DC X10, X11, X14, X15: > 16.5V DC		輸入點: X0 ~ X7, X10 ~ X17 可作 10 ~ 60 毫秒數位濾波處理
反應時間/雜訊抑制	10ms		0.5 μ s	

